FINAL YEAR PROJECT
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PRODUCT DEVELOPMENT USING CNC LATHE MACHINE

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1.0 INTRODUCTION.

Many of the achievements in computer aided design (CAD) and Computer aided manufacturing (CAM) have a common origin in numerical control.

Today there is a large number of different types of numerically controlled (NC) machine tools available. The NC technology is of great importance for automated manufacturing .

1.1 HISTORICAL BACKGROUND

Conventional NC is based largely on the pioneering work of a man named John T. Parson. In the late 1940s, Parson conceived a method of using punched cards containing coordinate pasition data to control a machine tool. The machine was directed to move in small increments, thus generating the desired surface of an air-foil. In 1948, Parson demonstrated his concept to the U.S Air Force, which subsequently sponsored a series of research projects at the Servomechanisms Laboratory of the Massuchusetts Institute of Technology.

The first demonstration of the NC prototype was held in 1952. By 1953, the potential usefulness of the NC concept had been proven.

1.2 PRINCIPAL OF NUMERICAL CONTROL

Machining of work pieces requires logic and sequential control. Thus attention must be paid to the relative movement between the tool and the workpiece. A device capable of generating this movement from defined trajectoru ,parametres operated with the help of an NC program, technological information for machining the workpiece.

The classical NC machine used perforated card to store the part program . Modern systems are equipped with magnetic tapes,disks, punched cards,or semiconductor memories. The possibility of changing a program quickly makes the machine tool very versatile. Standard NC machines can be integrated into CNC and DNC System.

CONTENTS **PAGE**

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